



ASSESSMENT OF COGNITIVE AND PSYCHOCULTURAL IMPACT OF COMMUNICATION BARRIER ON DEAF ADULTS' CONTENT OF SPEECH IN CALABAR EDUCATION ZONE

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Abstract

The researcher of this study conceptualised that a deaf person communicating with a hearing person is not only dealing with physical but also, a cultural barrier. This article examines the problems resulting from deaf people's inability to communicate effectively across these barriers. The main aim of the paper is to find out the cognitive and psychocultural impact of communication Barriers on deaf adults' content of Speech. The study is an ex-post factor design that adopted 32 participants in all the local governments in Calabar educational zone. The participants had hearing losses ranging from mild to profound. Some participants had hearing parents while others were deaf. Data were collected by the researcher and sign language interpreter through the use of a questionnaire. Data collected were subjected to testing using population t-test statistical analysis at .05 level of significance. The result of the study indicates that the cognitive and psychocultural impact of communication barriers on deaf adults' content of speech is significantly high and that these barriers create severe problems in the areas of education, emotions, and culture. The study suggested that signing is of significant importance to breaking the barriers leading to deaf people's development in cognitive, affective, social, and cultural functioning.

Keywords: Communication barrier; Deaf person; Speech

Introduction

Communication is the process of creating, transmitting and interpreting ideas, facts, information, thought, emotion, feelings, etc. between individuals or groups. The shared contents can be verbal or nonverbal, formal or non-formal; as long as there is a transition of a thoughtful idea, gesture, action, etc. such that both parties (sender and receiver) can understand, there is communication. In a real-time situation, the presence of the receiver is not imperative for communication to take place. This is so because there is a different medium to which information can be transmitted to the receiver. communication can occur across **vast** distances in time and space. The communication process is complete once the receiver has

understood the message of the sender. This understanding is evident through feedback.

Scholars have stated that effective communication is vital in all facets of life; work environment, education, family, friendship, etc. (Hargie, 2016; Jenaibi, 2010; White, Vanc, and Stafford, 2010; Barbato, Graham, Perse 2003; Runcan, Constantineanu, Ielics, Popa, 2012). Communication skills thus become one of required soft skills in modern complex society. It is agreeable by many that communication between two individuals should be simple. One key element is the ability to differentiate between talking and communicating. Communicating involved being successful in getting a point across to another person whereas, talking in most cases bared communication flows, thereby erecting barriers that hinder effective communication ability. Rani(2016) listed such barriers to include; attitudinal, behavioural, cultural, language, and environment. in addition to Rani's view. other barriers to effective communications may include; message overload, system design, individual linguistic ability, physiological, ability to organize thoughts before sharing; physical barriers, psychosocial barriers. biological, semantic or language barriers, emotional, socio-psychological, and cross-cultural barriers.

The communication difficulties of deaf people often begin at birth. According to Dube (1996) and Moores (1996), approximately 90% of deaf individuals are born to normal hearing parents. Deaf infants tend to progress through the normal stages of language development until approximately one year of age and they remain unexposed to language until their deafness is diagnosed and they become involved in an early intervention program. Despite the remediation programme, it is uncertain whether language deficit can be completely mediated. This is particularly worrisome when such children have little or no linguistic exposure. With the diagnosis of any form of hearing impairment, parents are left with no option but to use sign language as a means of communication. The aim is to help the child in learning and developing language skills much the same way with the normal hearing child.

Nevertheless, for the parent to become affluent sign language users, several years of intensive instruction and practice is required. In most cases, parents are unable to use sign language in communicating with their child, hence leaving such child unattended. Communication in the family circle with the deaf child, in this case, become more difficult because children learn a language when they are continually surrounded by fluent language users who model appropriate language patterns and vocabulary usage. Apparently, many parents have tremendously devoted time and are able to meet up with the challenges of learning

sing language. Yet, the majority of deaf children with hearing parents are only exposed to sign language teachers or interpreters at school and modelled after them.

For the deaf children who found themselves in high institutions, studies have shown that the cumulative lack of language learning makes them graduate from high school with a reading level of approximately that of a fourth grade (Rani 2016). Moreover, the author further found out that the literacy rates generally vary according to the amount of hearing loss: the greater the hearing loss, the lower the literacy rate (Rani, 2016). This is because language extends beyond cognition and memory manifesting to affective ability, social or pragmatic function. For a child to develop normally and discover the world, language is necessarily needed. As noted by Marschark, Lang, and Albertini (2006), deaf children are not completely exposed to communication until after they have passed the critical period (i.e. infant language development periods). This could be the reason why deaf children of deaf parents have fewer problems in development and learning compared to deaf children of hearing parents. Studies by Koester (1994) and Swisher (1984) also shows that early deaf signers are emotionally better adapted and, on the whole, have a socially better relationship with their signing peers and parents, and academically do better, compared with deaf oral children of similar hearing loss. It is also worthy of note that deaf parents use different visual and tactile strategies in order to have effective communication with their children, but the hearing parents do not know about the strategies and cannot produce them naturally. Therefore, Harris, Mohay (1997); Hart, Risley (1995) and Meadow-Orlans, Steinberg (1993) argue that deafness and inability to speak does not lead to a delay in development. The authors maintain that the main cause of the delay is that parents and children cannot communicate effectively. The effect of this communication barrier is noted by Marschark M, Lang H, Albertini J (2006). The authors maintained that personal communication has a great effect on different aspects of life including cognitive, emotional, educational, language development, literacy, and general academic ability

People with hearing impairment or hard of hearing seem to be more affected by the communication barriers than those with normal hearing. They tend to dislike interaction with significant others due to their inability to understand one another. Their disabilities also create a barrier to effective communication. The situation becomes worrisome when such a condition is accompanied by any form of physical defects in one's body part. Semantic barriers are also inevitable as some parents, caregivers and insignificant others may not be able to use the American sign language in formal settings. Such barriers arise during the process of

encoding and/or decoding the message into words and ideas respectively. This is true because the sign used in American sign language is different from that used in the local sign language. Other significant barriers to communication with the deaf/hard of hearing include but are not limited to misinterpretation of words, use of technical language like computer jargon. This study was conducted in order to determine in detail the communication barriers faced by deaf people and the impact of these barriers on their cognitive and psychocultural development of the deaf. The problem of the study is stated in question form thus: to what extent does the communication barrier affect the cognitive and psychocultural development of the deaf individual?

Purpose of the Study

The main purpose of this study was to assess the impact of communication barriers on cognitive and psychocultural features of deaf adults' content of speech in Calabar education zone. The study specifically sought to assess the impact of:

1. Communication barriers on working memory of deaf adult contents of speech,
2. Communication barriers on anxiety in deaf adult content of speech.
3. Communication barrier on attitudes of a deaf adult during the communication process.

Research questions

The following questions guided the study

1. To what level does communication barriers impacted on the working memory of deaf adult in speech contents?
2. To what extent does communication barriers elicit anxiety in deaf adult when speaking with significant others?
3. To what extent does the communication barrier influence the attitudes of a deaf adult during the communication process?

Research hypotheses

Three hypotheses guided the study and they are stated as follows

1. The impact of communication barriers on working memory of deaf adult speech contents is not significantly high.
2. The impact of communication barriers on anxiety in deaf adult when speaking with significant others is not significantly high.
3. The impact of communication barrier on attitudinal disposition of deaf adult during communication process is not significantly high.

Method

The researcher adopted a *survey research design in this study. The design allow the researcher to collect data from sampled respondents and generalised the findings to the entire population. This study was conducted in Calabar education zone using the sample of 32 deaf males and females aged 18-55 years who are hearing impaired. Their hearing loss ranged from mild to profound. They were selected from all the Local Governments in the entire zone using a snowball sampling technique. One deaf introduced the researcher to another and then assist the next person to participate in the study. From the information received, the onset of their deafness was prior to the age of 2 years, and therefore they were considered pre-lingually deaf. An interpreter was used by the researcher. For ethical consideration, interpreters who were family members of the participants (parents or siblings) and some others with a hearing family were also used to collect data.*

The instrument for data collection was a 30 items questionnaire, designed by the researcher, validated expert in special education and measurement and evaluation from the University of Calabar, the instrument was also trial-tested for reliability purposes. The reliability stand of the instrument was .83 -.87 based on the instrument sub-scale. The instrument was designed to measure the impact of communication barriers on working memory, anxiety and attitudinal disposition. The working memory measures the cognitive aspect of the variable while the anxiety and attitudinal disposition measure the psycho-cultural aspect of the variable. The instrument was designed in a five-point Likert scale. The deaf adults have naturally observed their homes. The researcher also communicated with them informally through sign language with the aid of the interpreter to prevent any anxiety and wrote down their responses and her observations for the purpose of data analysis. The data collected was analysed quantitatively using a one-sample t-test at .05 level of significance.

Results

Each of the hypotheses was reinstated and tested using one-sample t-test statistical analysis in this section.

Hypothesis one

The impact of communication barriers on the working memory of deaf adult speech contents is not significantly high. The result of one sample t-test use in testing this null hypothesis is presented in table 1.

Table 1: One sample t-test of the impact of communication barriers on working memory of deaf adult content of speech.

	N	Mean	Std.Dev	t	df	p-value
Impact of communication Barrier on working memory of deaf adult Content of speech	32	31.84	11.89	.877	31	.38

Table 1 shows a one sample t-test value of .877, with 31 degree of freedom and the test-value of 30, whereas the p-value observed is .38. the significant level was tested at .05. The result of the analysis was not significant because the observed p-value of .31 was greater than .05 with 31 degree of freedom. With this result, the null hypothesis stated was retain while the alternate hypothesis, was rejected. This result implies that the impact of communication barriers on adult content of speech is not significantly high as at the time of data collection.

Hypothesis Two

The impact of communication barriers on anxiety in deaf adult during communication with significant others is not significantly high. One sample t-test was also use to test this null hypothesis. The result of the analysis is presented in table 2.

Table 2: One sample t-test of the impact of communication barriers on anxiety in deaf adult during communication with significant others. Test value= 30

	N	Mean	Std.Dev	t	df	p-value
Impact of communication barrier on deaf adult content of speech	32	33.44	12.56	1.54	31	.13

The second hypothesis was meant to test the level of communication barrier on anxiety in deaf adult content of speech during communication process. One sample t-test result as presented in table 2 shows a t-test value of 1.54 at 31 degree of freedom with the p-value of .13. The observed p-value was less than .05, hence the result of the analysis was not significant. with this result, the null hypothesis was retained while the alternate hypothesis was rejected. This means that the impact of communication barriers on anxiety in deaf adult during communication with significant others is not significantly high.

Hypothesis Three

This hypothesis was formulated to the impact of communication barrier on attitude of deaf adult. The hypothesis stated in null form that the impact of communication barrier on attitudinal disposition of deaf adult during communication process is not significantly high. In other to ascertain whether to accept or refute this null hypothesis. One sample t-test statistical analysis was used, and the result of the analysis is presented in table 3.

Table 3: One sample t-test of the impact of communication barriers on attitudinal disposition of deaf adult during communication process. Test value =30

	N	Mean	Std.Dev	t	df	p-value
Impact of communication Barrier on deaf adult Content of speech	32	34.53	12.35	2.07	31	.04

The result of the analysis as shown in table 3 was significant. the table indicate a one sample t-test of 2.07 at 31 degree of freedom with the test value of 30. The observed p-value as seen in the table is was .04 which was less than .05 level of significant. the result of the analysis was said to be significant because the p-value was less than .05 level of significant. with this result the null hypothesis which stated that the impact of communication barrier on attitudinal disposition of deaf adult during communication process is not significantly high was rejected while the alternate hypothesis was retained. The implication of this result of that the impact of communication barrier on attitudinal disposition of deaf adult during communication process is significantly high.

Discussion

The interest of the first variable was on the impact of communication barriers on adultson the working memory of deaf adults in their content of speech. The result of the analysis revealed that the impact of communication barriers on deaf adult working memory's content of speech is not significantly high. Though the finding of this study was surprising to the researcher, it supported the work of a previous study conducted by Marschark, Sarchet, and Trani (2016) who found out that hearing status and preferred language modality (signed or spoken) are frequently confounded. Further,the finding of their study was that there were no significant differences among the groups (deaf signers' deaf non-signers, and hearing signers) on the task involving visual-spatial stimuli. However, across

varieties of other memory tasks especially those involving both verbal and nonverbal stimuli and those requiring retention of serial order, deaf individuals were found to score lower than hearing individuals

Contrastingly, the findings of Arf, Rossi and Sicoli (2015) was in variance with the present study. the researchers found that hearing people scored higher than deaf people at all levels of memory skills assessed. In the study, the researchers used verbal working memory skills, reading comprehension skills, and verbal rehearsal skills. Such findings as this could be accounted for the reason of finding by Marschark, Sarchet, and Trani (2016) which stated that 'hearing status and preferred language modality (signed or spoken) are frequently confounded'.

Marshall, Jones, Denmark, Mason, Atkinson, Botting, (2015) studied this issue of communication barriers on working memory of deaf by investigating working memory and its relation to communication and language processing in two different groups of deaf children: native users of British Sign Language (BSL) and non-native BSL users, as well as in a control group of typically developing children with no hearing difficulties and no knowledge of sign language. The native signers had at least one deaf parent who had communicated in sign language with their child since birth. The non-native signers had acquired sign language later. All three groups performed two executively demanding non-verbal working memory tasks as well as an expressive vocabulary test and a narration task based on a filmed scenario enacted in BSL. Results showed that the non-native signers performed more poorly than the hearing participants on both working memory tasks while there was no difference in performance between the native signers and the hearing participants. The non-native signers had poorer vocabulary scores than the native signers who in turn had poorer vocabulary scores than the hearing children. However, there were no group differences on the narration task. Regression analysis showed that vocabulary was a significant unique predictor of performance on both of the working memory tasks. This association was all the more striking considering that there were no explicit demands on verbal skills in the working memory tasks.

In the second hypothesis tested, it was found out that the impact of communication barriers on anxiety in deaf adult during communication with significant others is not significantly high. This is true because, deaf adult tends to understand their limitation and learn to live with it. Surprisingly, the finding of this study was in variant with the work of Shoham, Lewis, Favarato, and Cooper (2018) who discovered that prevalence of anxiety is higher among people with hearing impairment during communication process than the general population.

The indication was their findings was that the excess anxiety morbidity may be related to the hearing impairment itself, as it was associated with the severity of impairment, and reduced after therapy was introduced.

Another study with a confounding finding was conducted by Ariapooran¹ and Khezeli (2021). Their finding was that the presence of symptoms of anxiety disorder in adolescents during communication process are higher in deaf than in hard of hearing. Among the subscales, only the social anxiety disorder and the school avoidance anxiety disorder were significantly differed. The mean score of panic disorder, social anxiety disorder, and anxiety disorders during communication in the deaf adolescents were not higher than the hard of hearing ones.

Hearing impairment can impair verbal communication, increasing social exclusion and loneliness and exacerbating existing cognitive and functional impairments. It can also lead to greater dependence on others, increasing vulnerability to neglect, discrimination or abuse. It is possible that hearing impaired people may feel a greater sense of threat in challenging situations, if they are less able to understand what is happening or communicate their needs. Although risk factors for anxiety between people with acquired and pre-lingual hearing impairment might differ, both groups are likely to be at increased risk. Fellingner, Holzinger and Pollard 2012; Øhre, von Tetzchner and Falkum 2011).

Finally, the findings of the last hypothesis revealed no low significant impact of communication barriers on attitudinal disposition of deaf adult during communication process. This finding goes ahead to support the fact that most deaf people have been greatly influence by deaf culture, and by extension societal view. The finding of this study was in line with the work of Carruth, Robert, and Hurley (2007) who found out that hearing impairment associated with hearing loss, may not adequately represent communication handicap and the impact on quality of life. Further finding of study was that most of the deaf adult refuse to wear hearing aids, and that this is prevalent in the deaf culture. The assumption according to the researcher was that wearing hearing aids prevents others from getting one's attention. The findings of this study confirm that this attitude, along with hearing loss in the left ear, is associated with a communication handicap in work settings. Although being able to hear others on a day-to-day basis is important, this attitude may contribute to behaviors leading to hearing loss and decreased communication over time.

Studies also discovered that hearing loss affects every aspect of life. Individuals who have hearing loss are not always aware of the social consequences. They may have a poorer quality of life, be less active socially, feel

excluded or isolated, and have a negative self-image (Arlinger, 2003; Lusk, 1997). In the study by Al-Zahrani (2005), Significant differences were found in peer relations and social adjustment based on gender.

Conclusion

Barrier to effective communication is inevitable, and become necessary to overcome them for effective communication to be achieved. However, such barrier become more worrisome with the group of deaf and hard of hearing individual. Their emotional, cognitive, psychological and cultural life are affected if such barriers are not overcome during the communication process. This study access just a few variables under cognitive, psychological and cultural context. The aim was to ascertain the level in which communication barrier impacted each of these variables. Under cognitive, psychological and cultural variables, working memory, anxiety and attitudinal disposition were used respectively. The findings of the study show that the impact of communication barriers on anxiety in deaf adult during communication with significant others is not significantly high. The impact of communication barriers on anxiety in deaf adult during communication with significant others is not significantly high. the impact of communication barrier on attitudinal disposition of deaf adult during communication process is significantly high. The exhaustiveness of consideration under each variable calls for another study using different sub-variables.

Recommendations

Base on the findings of study, it was recommended that:

1. A conducive environment should always be created during the communication process with the deaf and heard of hearing. This will ease their anxiety eliminating all potential communication barriers that may arise.
2. It is also recommended that the families, educators, and all the people related to the deaf people should use sign language to enrich their communication; this will provide the deaf individuals with equal
3. opportunity to enjoy the communication benefits and grow in cognitive, affective and social aspects of life

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